

Unit 6

Review class

Simplify

$$\frac{9x^2 + 6x + 1}{8x^3 - y^3} \cdot \frac{4x^2 - y^2}{\underline{3x^2 + 3xy + x + y}} \div \frac{3x^2 - 8x - 3}{4x^2 - 10x - 6}$$

$$\frac{\cancel{(3x+1)}^2}{\cancel{(2x-y)}(4x^2+2xy+y^2)} \cdot \frac{\cancel{(2x-y)}(2x+y)}{(x+y)\cancel{(3x+1)}} \cdot \frac{2(2x+1)\cancel{(x-3)}}{\cancel{(x-3)}\cancel{(3x+1)}}$$

$$\frac{2(2x+y)(2x+1)}{(x+y)(4x^2+2xy+y^2)}$$

$$\frac{3}{(x^2-4)} - \frac{2}{x^2+3x-10}$$

$$\frac{3}{(x-2)(x+2)} \cdot \frac{x+5}{x+5} + \frac{-2}{(x+5)(x-2)} \cdot \frac{x+2}{x+2}$$

$$\frac{3x+15}{(x-2)(x+2)(x+5)} + \frac{-2x-4}{(x+5)(x-2)(x+2)} = \frac{x+11}{(x+5)(x-2)(x+2)}$$

$$\left(\frac{2}{x-2} + \frac{3}{x-2} \right) \div \frac{3}{x^3 + x^2 - 4x - 4}$$

$$\left(\frac{5}{\cancel{x-2}} \right) \cdot \frac{(x+2)\cancel{(x-2)}(x+1)}{3}$$

$$\begin{aligned} & (x^3 + x^2) + (-4x - 4) \\ & x^2(x+1) + -4(x+1) \\ & (x+1)(x^2 - 4) \end{aligned}$$

$$\frac{5(x+2)(x+1)}{3}$$